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From: Ripperda.Mark@epamail.epa.gov
Sent: Monday, February 07, 2011 16:44
To: Amy Brownell
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Subject: AOC Statement of Work
Attachments: AOC SOW 2.7.2011.doc

I apologize to everyone who doesn't care, but out of laziness I'm using one of Amy's emails to respond to with our updated AOC Statement of Work that addresses comments from the City, MacTec, Navy and DTSC.

APPENDIX C
STATEMENT OF WORK

ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL ACTION FOR CLEANUP OF
PORTIONS OF THE FORMER HUNTER'S POINT NAVAL SHIPYARD
U.S. EPA Region 9

1. PURPOSE

The primary purposes of this Statement of Work ("SOW") are to: (1) implement the Administrative Order on Consent for Remedial Design/Remedial Action ("RD/RA") for Cleanup of Portions of the Former Hunters Point Naval Shipyard ("AOC"), Docket No. 2010-14; (2) expedite removal actions, if appropriate or necessary, to control hazardous substances, pollutants and contaminants of concern; (3) expedite cleanup of hazardous substances which pose an unacceptable risk to human health and the environment at the Property, excluding Navy Retained Conditions and (4) implement operation and maintenance procedures until the clean-up is complete.

This SOW addresses approximately 81 acres of the former Hunters Point Naval Shipyard located in San Francisco County, CA. The Property includes Parcels B (40.7 acres and excluding IR Sites 07/18) and G (40.3 acres).

This SOW outlines the work the Respondents, San Francisco Redevelopment Agency (SFRA) and CP Development Co., LP, have agreed to perform pursuant to the AOC. This SOW does not limit or preclude the U.S. Environmental Protection Agency (EPA) from requiring additional work.

The Parties acknowledge that the Navy has completed significant portions of the remediation of groundwater, soil, and soil gas contamination on the Property pursuant to the Amended Record of Decision (ROD) for Parcel B (1/2009) and the ROD for Parcel G (2/2009) and that the Work described below remains to be completed.

Unless otherwise expressly provided herein, terms used in this SOW which are defined in the AOC shall have the meaning assigned to them in the AOC.

Deliverables required under this SOW shall be submitted according to Section XIV (EPA Approval of Plans and Other Submissions) of the AOC. EPA will review and approve the documents in consultation with the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). Deliverables will be provided to the Navy for information and comment. EPA will determine a schedule for the submittal and review of deliverables in consultation with DTSC and the RWQCB. Respondent(s) may submit deliverables in advance of the schedules presented herein or may combine several deliverables into a composite submittal. If deliverables are combined into a composite submittal, Respondent(s) shall include each deliverable as a

discrete and readily identifiable section within the larger submittal document. This SOW does not preclude the shortening of the schedules presented herein if deliverables submitted in advance of their deadlines are approved by EPA in consultation with DTSC and RWQCB.

2.0. TECHNICAL SPECIFICATIONS AND REQUIREMENTS

The major components of the remediation activities that comprise the Work are outlined below:

1. Project Management;
2. Public Involvement;
3. Remedial Action Work Plan;
4. Remedy Implementation;
5. Remedial Action Completion Report and Closeout Inspections;
6. O&M/Performance Monitoring;
7. Five Year Reviews; and
8. Removal Actions.

SFRA shall provide the necessary qualified and licensed personnel, equipment, and resources to successfully execute the Work under the AOC.

2.1. Project Management

Within 30 calendar days of the Effective Date of the AOC, a scoping meeting shall be held to discuss the overall project. The purpose of the meeting shall be for the Respondent(s) to describe the proposed approach to complying with the AOC, in particular, Section IX (Performance of the Work by Respondent(s), and this SOW and to solicit input from EPA, DTSC and RWQCB. The following topics, at a minimum, should be addressed: (i) How Respondent(s) shall prioritize tasks/parcels; (ii) Respondent's preliminary schedule for accomplishing the Remedial Action (RA); and (iii) contingencies for stop work or reprioritization of tasks or parcels due to unanticipated events. Once EPA has approved the proposed approach for accomplishing the work, EPA, at its discretion, and in consultation with DTSC and RWQCB, shall present a schedule showing the dates each task and/or deliverable is to be completed.

2.1.1 RA Progress Meetings and Reports

Respondent(s) shall coordinate and conduct monthly RA progress meetings with EPA, DTSC, RWQCB, and Navy. The Progress Meetings shall address the status of project design, construction, and implementation activities, schedule changes, test results, observations and findings, issues of noncompliance, and upcoming activities. The Respondent(s) shall document project progress on a monthly basis. The monthly reports shall report on ongoing field audit findings and any corrective actions, planned or taken. The monthly reports shall also include: 1) summary of activities at the site; 2) list of any building demolitions; 3) summary of any field discoveries and actions; 4) any data

quality assessments; 5) any other anticipated intrusive activities and 6) planned activities including field work and deliverables for the coming month. Upon approval by EPA, and in consultation with DTSC and RWQCB, the frequency of these meetings and reports may be reduced, eliminated, or replaced with written reports.

2.1.2 Administrative Record and Public Repository

The Respondent(s) shall assist the Navy with the Administrative Record (AR) including ensuring all project documents, including drafts, draft finals, and final versions, along with comments and responses to comments and all correspondence are available in the AR for review by the public.

SFRA shall maintain a project repository, as well as provide copies to the Navy for the Navy's maintenance of the AR files as required by the Comprehensive Emvironment Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), and other applicable laws and regulations.

2.2 Public Involvement

The Respondent(s) shall prepare and submit a Community Involvement Plan (CIP) that is consistent with the Navy's approved CIP and the NCP for approval by the EPA, in consultation with DTSC, RWQCB and the Navy, within 30 calendar days of the Project Scoping Meeting. The Respondent(s) may develop a CIP that relies on or is integrated with the Navy's existing CIP. The Respondent(s) shall be responsible for notification to, involvement with, and solicitation of input from the public in coordination with the regulatory agencies (EPA, DTSC, and RWQCB) and the Navy. The Respondent(s) shall assist EPA with community relations functions as needed including preparation for community meetings, preparation of fact sheets, and interviews with tenants and the surrounding community. The Navy has prepared a Community Involvement Plan (CIP) that is based on an understanding of the issues and concerns of the community and the citizens' indicated preferences for being involved in processes and decisions regarding Site activities. The CIP identifies the location of the Administrative Record repository and other documents to ensure community access to Site information and understanding of Site activities. The CIP provides opportunities for public input throughout the remedial planning and action process.

2.3 Remedial Action Work Plans

The Respondent(s) shall prepare and submit a Remedial Action Work Plan (RAWP), within 90 calendar days of the Project Scoping Meeting, for review and approval by EPA and the Navy, in consultation with DTSC and RWQCB. The RAWP shall be the primary plan by which the Respondent(s) controls the Work necessary to implement the remedy and achieve the Performance Standards as set forth in design plans and specifications in the approved final remedial design documents ("Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" [ChaduxTt, December 10, 2010] and "Final Remedial Design Package Parcel G" [ChaduxTt, October 4, 2010]). The RAWPs may also include

Commented [mr1]: What's the status of Navy approval? Is the RAWP a special case?

requests for revisions to the approved final remedial designs. Any revisions to the remedial designs must still meet the requirements of the CERCLA RODs and the AOC and be approved by EPA, in consultation with DTSC and the RWQCB. The RAWP shall describe the procedures Respondent(s) will employ to perform the activities required and the specific objectives of these activities in performing the Work. The following areas shall be addressed in one or more RAWPs:

- Project background narrative with a statement of problems posed by the Property and the objectives of the remedial actions;
- Sequencing of the Work, including personnel and facilities mobilization logistics, significant activities and deliverables, and a comprehensive project schedule;
- Detailed description of each remedial activity, with design drawings as appropriate, and the methods and procedures that will be used to implement the remedy and achieve the Performance Objectives;
- Format for Progress Reports to be submitted;
- Control of Property Access;
- Format of regularly scheduled remedial construction progress meetings;
- Procedures for modifying the RAWP, final plans and designs, other management plans, deliverables and schedules required by this SOW;
- Activity-specific sampling plans and necessary instrument calibration, if not covered by currently approved sampling plans;
- Procedures for management and organization of construction, field operations and Work activities including equipment maintenance and QA/QC;
- Processes, procedures and safeguards for ensuring containment of contaminants and pollutants and compliance with applicable federal, state and local requirements that may be triggered by the RA;
- Procedures for documenting field changes during construction;
- Procedures for the monitoring and mitigation of impacts to habitat, existing buildings, permanent structures, and occupants;
- Waste Materials storage and disposal; and
- Procedures for the integration and coordination with any entities involved in any future redevelopment of the Property, including procedures for transfer and dissemination of information on design, construction, operations, monitoring, Property security and access, corrective action, emergency response, and community involvement.

2.3.1 Additional Plans

Several additional plans supporting the remedial action shall be included with the RAWP as required below.

2.3.1.1 Dust Control Plan and Asbestos Dust Mitigation Plan

The Respondent(s) shall prepare and submit a Dust Control Plan (DCP) and an Asbestos Dust Mitigation Plan (ADMP) for review and approval by EPA in consultation with the DTSC and the RWQCB. A Dust Control Plan identifies the measures that will be taken to reduce particulate emissions during the Work. The Dust Control Plan shall be prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to earth moving activities. Exposure of onsite construction workers to dust containing Chemicals of Concern (COCs) will be minimized, and generation of nuisance dust will also be minimized to comply with SFDPH requirements prohibiting visible dust on San Francisco construction sites.

Naturally occurring asbestos (NOA) has been found in the serpentine bedrock and soil throughout the Hunters Point/Bayview area. An Asbestos Dust Mitigation Plan will be submitted that describes the measures to be taken to minimize the creation of potential asbestos-containing dust and comply with requirements of the California Air Resources Board Airborne Toxic Control Measures (ATCM).

2.3.1.2 Health and Safety Plan

The Respondent(s) shall prepare and submit a health and safety plan (HASP) for review by EPA in consultation with DTSC and the RWQCB. The HASP shall be designed to protect on-site personnel as well as off-site workers, tenants and residents from physical, chemical, and other hazards posed by the construction, operation and maintenance activities of the RA.

2.3.1.3 Construction Quality Assurance Plan

The Respondent(s) shall prepare and submit a Construction Quality Assurance Plan (CQAP) for review and approval by EPA in consultation with the DTSC and the RWQCB. The CQAP is a document that specifies procedures to ensure that the completed RA works meets or exceeds all design criteria and specifications. The CQAP should discuss: (1) roles and responsibility of those completing the construction; (2) qualifications of personnel completing the construction; (3) inspection activities; (4) sampling requirements and (5) documentation for the construction.

2.3.1.4 Sampling & Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP)

Respondent(s) shall prepare a Sampling and Analysis Plan (SAP) for groundwater monitoring and submit it for review and approval by EPA, in consultation with DTSC and RWQCB. The SAP shall ensure that data collection and analytical activities are conducted in accordance with EPA guidelines, including EPA SW-846. The SAP shall provide a mechanism for planning field activities and shall consist of a Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP). The SAP shall also cover any other anticipated sampling activities, such as soil, or soil vapor for modifying Areas Requiring Institutional Controls (ARICs), or provide for the submission of SAP addendums on an as needed basis.

The QAPP shall describe the policy, organization, functional activities and quality assurance and quality control protocols necessary to achieve Data Quality Objectives (DQOs) dictated by the intended use of the data. The QAPP shall include Quality Assurance (QA) and Quality Control (QC). QA shall be an integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed to meet project requirements defined in the RA Work Plan. QC shall be the overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established in the RA Work Plan. The QAPP shall provide for oversight of field activities and data by EPA, DTSC and RWQCB. The FSP shall provide guidance for all fieldwork by defining in detail the sampling and data-gathering methods to be used on the project by parcel or sub-parcel. The FSP should clearly state sampling objectives; necessary equipment; sample types, locations and frequency; analyses of interest; and a sampling and deliverables schedule.

2.3.1.5 Site Access and Security Plan

The Respondent(s) shall prepare and submit to EPA for review and approval in consultation with the DTSC and the RWQCB a Site Access and Security Plan. This plan should describe activities the Respondent(s) will undertake to monitor and control access to the Property during implementation of the response actions and period of work performance.

2.3.1.6 Operation and Maintenance Plan

The Respondent(s) shall update, as necessary to reflect any changes in site conditions or knowledge, the Operation and Maintenance (O&M) Plan from the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), and "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010). Any updates shall be submitted to EPA for review and approval in consultation with the DTSC and the RWQCB.

~~The Respondent(s) shall prepare and submit to EPA for review and approval in consultation with DTSC and the RWQCB, an Operation and Maintenance (O&M) Plan to cover long term operation and maintenance of the RA. The final O&M Plan shall be submitted by the Respondent(s) prior to or at the completion of construction of the RA and shall incorporate any modifications or corrections.~~

~~The O&M Plan shall include the following:~~

- ~~Description of existing and new Property facilities and environmental control systems;~~
- ~~Integration and coordination requirements of the existing and new systems;~~

- ~~Property administration, utility and support facilities, data management and management information systems, and reporting;~~
- ~~Procedures for verifying and documenting compliance with QC requirements;~~
- ~~Procedures of operational emergency response;~~
- ~~Maintenance procedures and schedules;~~
- ~~Compliance and process monitoring procedures and schedules;~~
- ~~Formats for Noncompliance Notification, Compliance Action Plan, and Noncompliance Correction Report;~~
- ~~Contingency plans with cost estimates that provide an organized, planned, and coordinated course of action to be followed by the Respondent(s) in the case of an unexpected failure of remedial systems, or release or threat of release of Waste Materials;~~
- ~~Emergency repair and replacement procedures;~~
- ~~Appendices, including sampling plans for each of the monitoring and sampling activities, if not addressed as separate documents;~~
- ~~Appendix addressing Compliance Testing, if not addressed as separate documents;~~
- ~~Procedures for management and control of project data; and~~
- ~~Procedures for transitioning O&M requirements and activities to new entities involved in any future redevelopment, if approved by EPA.~~

2.3.1.7 Land Use Control Implementation Plan

Commented [mr2]: Since the RD is done and includes the information in a LUCIP, should we change this to LUC monitoring and reporting? Then also modify Section 2.4.6?

The Respondent(s) shall update, as necessary to reflect any changes in site conditions or knowledge, the Land Use Control Remedial Design from the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), and "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010). Any updates shall be submitted to EPA for review and approval in consultation with the DTSC and the RWQCB.

~~The Respondent(s) shall prepare and submit to EPA for review and approval in consultation with DTSC and the RWQCB a Land Use Control Implementation Plan (LUCIP) describing procedures for implementation, monitoring and enforcement of any Institutional Controls (ICs) for the Property, including but not limited to land use covenants, as selected in the ROD(s). The LUCIP must be consistent with the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), and "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010).~~

2.3.1.8 Storm Water Pollution Prevention Plan

The Respondent(s) shall prepare and submit to EPA for review and approval in consultation with DTSC and the RWQCB, a Storm Water Pollution Prevention Plan (SWPPP) and related monitoring and reporting activities.

2.3.1.9 Vapor Intrusion Mitigation Remedial Design

The Respondent(s) shall prepare and submit to EPA for review and approval in consultation with the DTSC and the RWQCB a Vapor Intrusion Mitigation Remedial Design that meets the design requirements in the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010), and the requirements for vapor mitigation in "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Interim Final" (DTSC, December 15, 2004, and revised on February 7, 2005).

2.4 Remedy Implementation

The Navy has followed the CERCLA process in the prior characterization of environmental conditions, analysis of remedial action alternatives, and selection of the remedy. Site characterization data are available in various reports referenced in Appendix A herein and in the Administrative Record files. The site-specific remedial activities required by the CERCLA RODs are summarized in Table 1. The remedial actions, including institutional controls, for the Site will comply with the AOC, CERCLA, the NCP, and other applicable state and federal laws and regulations and shall be protective of human health and the environment. The CERCLA RODs, Remedial Design Packages and the AOC set forth the specific components of the remedy to be implemented at the Site. Those remedial components are summarized below:

2.4.1 Soil Vapor Extraction (SVE) System Expansion and Operation

SFRA shall expand and operate the SVE system inside Building 123 (Parcel B). SFRA shall decommission the SVE system after approval from the EPA, DTSC and RWQCB. Details on operation of the SVE system including monitoring, reporting, and O&M activities are contained in the "Final Remedial Design Package for Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010). The SVE system shall be operated until the remedial action objectives specified in the Remedial Design Package and the RAWP have been met (achievement of soil gas action levels or until systematic asymptotic conditions are reached without reasonable indication of further reduction based on system monitoring results). The SFRA shall submit a RACR and obtain regulatory closure for this action in accordance with the AOC (See Section 2.5). This task is only applicable to Parcel B.

2.4.2 Groundwater Remediation

SFRA shall perform one round of polylactate injection at the IR Site 10 Volatile Organic Compound (VOC) plume (Parcel B) for soil vapor intrusion source control and to enhance natural attenuation of VOCs in groundwater as presented in the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010). Injection and subsequent monitoring of the natural attenuation will be conducted in accordance with requirements and procedures specified in the Remedial Design Package

Commented [mr3]: This section is new in this version.

Commented [mr4]: Response to Bob E: This language is appropriate as opposed to the language in the gw section because our SV action levels correspond directly to the vapor intrusion risk. The gw action levels are an estimate. Also, we can stop at asymptotic conditions because the vapor barriers will be required if action levels aren't achieved.

Commented [mr5]: One round is all that's specified, right?

and RAWP. SFRA shall conduct groundwater monitoring until the remedial action goals for groundwater are achieved or until residual VOC concentrations in groundwater are shown not to pose an unacceptable risk to human health through the vapor intrusion pathway, as presented in the approved CERCLA RODs and the RAMPs contained in "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, date TBD). The SFRA shall submit a RACR and obtain regulatory closure for this action in accordance with the AOC (See Section 2.5). This task is only applicable to Parcel B.

Commented [RLE6]: This language seems more appropriate for use above instead of the language used. See my comment 4 above.

Commented [mr7]: See response above.

2.4.3 Covers over Soil

SFRA shall construct a durable cover over the Site that (1) meets the specifications of the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), and "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010), or (2) meets the requirements of San Francisco Department of Public Works or the San Francisco Department of Building Inspection codes, or (3) fulfills the requirements of the AOC or is otherwise approved by the Environmental Regulatory Agencies. The SFRA shall submit a RACR and obtain regulatory closure for this action in accordance with the AOC (See Section 2.5). Regulatory Closure for covers must be achieved no later than 7 years after the date of execution of the AOC.

2.4.4 Shoreline Revetment

SFRA shall construct a shoreline revetment for certain portions of the shoreline at Parcel B that meets the specifications of the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010) to prevent erosion and migration of underlying soil and sediment into San Francisco Bay. The shoreline revetment shall meet the specifications of the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), or otherwise be approved by the Environmental Regulatory Agencies. The SFRA shall submit a RACR and obtain regulatory closure for this action in accordance with the AOC (See Section 2.5). Regulatory Closure for shoreline revetment must be achieved no later than 7 years after the date of execution of the AOC. This task is only applicable to Parcel B.

2.4.5 Soil Vapor Intrusion Mitigation

SFRA shall implement engineering controls to prevent exposure to VOCs in soil gas that may accumulate within existing or future enclosed structures at concentrations that would pose unacceptable risk via inhalation of indoor vapors. The Navy has established an initial ARIC for VOC vapors based on soil gas surveys conducted prior to redevelopment. The initial ARIC is documented in the XXX.

Commented [mr8]: Need reference

Vapor mitigation shall meet the remedial action objectives stated in the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010), and the requirements for vapor mitigation in "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Interim Final" (DTSC, December 15, 2004,

and revised on February 7, 2005). The SFRA shall submit a RACR and obtain regulatory closure for this action in accordance with the AOC (See Section 2.5).

Any proposed construction of enclosed structures within the VOC ARIC must be approved by the FFA Signatories prior to construction in order to ensure that potential unacceptable risk from VOC vapors is reduced to acceptable levels. Enclosed structures within the VOC ARIC shall not be occupied until the Owner has requested and obtained approval (through approval of a RACR or similar document) that any necessary engineering controls or design alternatives have been properly constructed and that the VOC vapor risk level is acceptable.

2.4.6 Long-term Groundwater Monitoring

The Respondent(s) shall monitor elevations of and chemical concentrations in groundwater according to the requirements in the RAMPs that are included in "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), and "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010). Long-term groundwater monitoring shall continue until such time as the regulatory agencies have issued regulatory closure for groundwater conditions (See Section 2.5).

2.4.8 Implementation of Land Use Controls

All activity and use restrictions are specified in the form of deed restrictions and the Covenant to Restrict Use of Property (CRUP) between DTSC and the Navy and will be enforceable against all future owners, tenants and occupants of the property by DTSC and the Navy. The Respondent(s) shall implement the Land Use Control requirements as detailed in the LUC RDs that are included in the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010), and CRUP(s) and Deed(s) that are signed and recorded at the time of transfer of title.

Commented [mr9]: Does this have meaning here? Is implementation simply executing the deeds and CRUPs? If so, that is at transfer and outside the AOC, and the only component necessary here is the O&M and reporting on LUCs.

The LUC RDs, CRUP(s) and Deed(s) reference the Risk Management Plans (RMP). The RMPs detail certain restricted activities, including many types of development activities that are pre-approved by EPA, DTSC and RWQCB as long as procedures and protocols detailed in the RMPs are followed. Requirements and procedures in the RMPs must be implemented and followed by the Respondent(s) and all subsequent property owners. SFRA shall conduct the required annual inspections for land use controls and activity restrictions and shall follow-up on deficiencies and violations noted and refer non-compliant owners, tenants and occupants to the DTSC for additional enforcement if necessary.

2.5 Remedial Action Completion Report (RACR) and Regulatory Closure Documentation

2.5.1 Pre-Final Inspection

Within 90 calendar days after the Respondent(s) concludes that the RA has been fully performed and the Performance Standards have been attained, the Respondent(s) shall schedule and conduct a pre-certification inspection to be attended by the Respondent(s), EPA, DTSC and RWQCB to verify that the remedy is operational and functional.

2.5.2 Final Inspection

Upon certification by EPA that all items identified by EPA in consultation with DTSC and the RWQCB during the Pre-Final Construction Inspection have been addressed, the Respondent(s), EPA, DTSC and RWQCB, if they choose, shall conduct a Final Construction Inspection. The purpose of the inspection is to verify that all construction has been completed according to the RD and RAWP, that the remedy meets the Property-specific remediation goals, as specified in the ROD, and that the remedy is operating properly and successfully.

2.5.3 Remedial Action Completion Report

Upon satisfactory completion of the Final Inspection, the Respondent(s) shall, within 60 calendar days of the inspection, submit to EPA for approval, in consultation with DTSC and RWQCB, a written RACR. Approval of the RACRs by EPA, DTSC and the RWQCB signifies Certification for Completion of the Remedial Action.

A RACR should document the completion of the RA and may encompass the entire Site or a portion of the Site or a particular site-specific remedial action within the Site. For each of the remedial actions, the following standards apply:

- Performance Standards specified the RODs or removals are met;
- ICs are in place and effective;
- The Property is protective of human health and the environment; and
- The only remaining activities at the Property are O&M, including ICs monitoring and reporting.

The RACR shall document and provide justification for any changes in remedial systems that may have resulted from modifications implemented during compliance testing.

The RACR shall be submitted for approval by EPA, in consultation with DTSC and RWQCB. The draft RACR will be subject to the review procedures in Section XIV of the AOC. ~~The draft final RACR will be considered to be final if no comments are received within the 30-day comment period.~~

Commented [mr10]: No, the RACR must be proactively approved by an EPA official.

The RACR typically contains ten sections, but should be tailored to the type of remediation conducted on the Property. The RACR shall be organized as follows, unless an alternative structure has been approved by EPA:

I. Introduction
II. Operable Unit Background

III. Construction Activities
IV. Chronology of Events
V. Performance Standards and Construction Quality Control
VI. Final Inspection and Certifications
VII. Operation and Maintenance, including ICs
VIII. Summary of Project Costs
IX. Observations and Lessons Learned
X. Operable Unit Contact Information
XI. Appendix A - Remedial Action Report
XII. Appendix B - Cost and Performance Summary

The RACR shall include a discussion of who is responsible for continued O&M, including O&M of LUCs. The RACR shall include as-built drawings signed and stamped by a professional engineer registered in the State of California along with a statement that the RA has been completed in full satisfaction of the requirements of the AOC. The report shall also contain the following statement, signed by a responsible corporate official of the Respondent(s) or the Respondent's Project Coordinator:

> *To the best of my knowledge, after thorough review, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

2.6 Operation and Maintenance/Performance Monitoring

Respondent(s) shall implement performance monitoring and operation and maintenance procedures as required by the approved O&M Plan (as updated) for the RA once it is demonstrated that the RA components are operational and functional (ChaduxTt, December 10, 2010; ChaduxTt, October 4, 2010).

Respondent(s) shall submit for review to EPA, DTSC and the RWQCB on a monthly basis any sampling, analysis and system performance data for any treatment or engineering systems required to be monitored during the O&M phase. The frequency of the reports may be adjusted upon agreement between the Respondent(s) and EPA, in consultation with DTSC and the RWQCB.

Respondent(s) shall also prepare and submit for review to EPA, DTSC and the RWQCB annual progress reports during the operation and maintenance/performance monitoring phase of the RA. The progress report should include the same information as required in the RA monthly progress reports as well as an evaluation of the effectiveness of any system in meeting clean-up and performance goals of the RA. The SFRA will update the O&M plan in conformance with the RAWP and/or the RACR.

Respondent(s) may enter in an O&M Agreement with DTSC that supersedes the O&M Plans associated with this Order two years after the RACR(s) are approved. Any such O&M Agreement must be consistent with this Order and the O&M requirements in the

Commented [mr11]: Bobs – anything to add?

"Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, December 10, 2010), "Final Remedial Design Package Parcel G" (ChaduxTt, October 4, 2010).

SFRA shall conduct the required annual inspections for land use controls and activity restrictions and shall follow-up on deficiencies and violations noted and refer non-compliant owners, tenants and occupants to the DTSC for additional enforcement if necessary. Respondent(s) shall also prepare and submit for review to EPA, DTSC and the RWQCB annual reports on compliance with the LUCs.

2.7 Five-Year Reviews

At sites where contaminants will remain at levels that will not permit unrestricted use of the site, a review will be conducted no less frequently than once every five years to ensure that the implemented remedy continues to be protective of human health and the environment.

The Respondent(s) shall complete and submit a Five Year Review Report for review and approval by EPA in consultation with DTSC and RWQCB no less often than every five years beginning in 2023. The Navy will prepare the five-year review reports for 2013 and 2018 and submit them for review and approval by EPA, in consultation with DTSC and the RWQCB. Reports shall be similar to previous five-year review reports for HPNS and consistent with EPA guidance. The Five Year Review Reports should include the following information:

- Property summary;
- Description and objectives of remedial actions;
- A synopsis of the Work;
- Summary of activities addressing compliance with all Applicable or Relevant and Appropriate Regulations (ARARs) and Performance Standards;
- Summary of ICs monitoring and enforcement activities;
- Description of community relations involvement activities and results and impacts of these activities;
- Areas of Noncompliance and status of corrective actions implemented;
- Description of any outstanding activities required by the AOC or SOW and schedule for implementation;
- Summary of Costs for performing the Work;
- Proposed suspension and termination of O&M for any environmental control system or control action. Respondent(s) shall include documentation demonstrating that Performance Standards have been and will continue to be achieved.
- Analysis of O&M activities and any cost increases to determine if such increases warrant proposals of additional remedial actions to reduce O&M activities or contain rising costs; and

- Recommendations for future response actions.

Based on reviews of monitoring and O&M data or other Property-specific circumstances, EPA may require Respondent(s) to perform additional studies and investigations and to summarize and analyze the results for EPA review and approval. EPA may also require Respondent(s) to perform additional response actions.

2.8 Removal Action Work Plans and Implementation

During implementation of the remedy or following its completion, EPA, in consultation with DTSC and RWQCB, may determine that removal actions or additional remedial actions are necessary to address circumstances at the Property which pose a potential threat to human health or the environment. The characterization of the condition and remedial or removal activities will generally be conducted consistent with the Responses to Unknown or Unexpected Conditions by Respondent(s) Plan outlined in the Post-RACR and Pre-RACR RMPs. The Responses to Unknown or Unexpected Conditions by Respondent(s) Plan provides a process for evaluating the condition and provides a framework for deciding whether work shall be done under the Remedial Action Work Plan or as a Removal Action. Typically, any condition for which the ROD provided a remedy can be done as a continuation of the remedial work and any Unknown Condition that requires a CERCLA response will be performed as a Removal Action. The Respondent(s) shall provide EPA with sufficient information and/or data to make such determinations. The remedial or removal actions performed should not be inconsistent with the long-term remedial actions proposed for the sites.

Commented [mr12]: We can't call it simply Unknown because there may be knowns that we don't expect that require a response under the ROD.

2.8.1 Time-Critical Removal Actions

In accordance with the AOC, within 30 calendar days after the Navy's issuance of any Action Memorandum for a Time-Critical Removal Action (TCRA), Respondent(s) shall submit to EPA for approval, with a copy to DTSC and RWQCB, a Time-Critical Removal Work Plan for performing the Removal Action described in any such Action. The Time-Critical Removal Work Plan shall provide a description of, and an expeditious schedule for, the actions required by such Action Memorandum. Except as otherwise indicated by EPA, Respondent(s) shall prepare any adjustments to the QAPP and FSP as part of a Time-Critical Removal Work Plan. If EPA determines that it is appropriate, the Time-Critical Removal Work Plan shall also include contingency planning. Once approved, the Time-Critical Removal Work Plan, the schedule, and any subsequent modifications shall be incorporated into and shall be a requirement of this AOC, and Respondent(s) shall conduct the activities required by the approved Time-Critical Removal Work Plan. Respondent(s) shall not commence implementation of the Time-Critical Removal Work Plan developed hereunder until receiving written EPA approval, in consultation with DTSC and RWQCB. Time-critical removal actions should be completed within 6 months of the approval of the work plan.

2.8.2 Non-Time-Critical Removal Actions - Engineering Evaluation/Cost Analyses

Unless otherwise directed by EPA, within forty-five (45) days after EPA approval that an NTCRA is warranted, Respondent(s) shall submit to EPA and DTSC an Engineering Evaluation/Cost Analyses (EE/CA) Work Plan which includes, but is not limited to, procedures for the: collection of all data necessary to characterize the area subject to the Non-Time-Critical Removal Action (NTCRA); evaluation of risks; identification and analysis of Removal Action alternatives, and development of sufficient information to enable the selection of appropriate NTCRAs for area(s) of the Site, after consultation with EPA and DTSC. A schedule for development of the EE/CA shall be included in the EE/CA Work Plan, for EPA approval.

2.8.3 Non-Time-Critical Removal Actions – Design and Workplan

In the event that the Navy, with EPA approval, issues any Action Memoranda for NTCRAs relating to any area of the Site following Respondent's performance of an EE/CA relating to such area, Respondent(s) shall prepare the NTCRA Design in accordance with CERCLA, the NCP, this SOW, and relevant guidance. Within sixty (60) days after the Navy's issuance of such an Action Memorandum that EPA approves, after consultation with DTSC and RWQCB, Respondent(s) shall submit to EPA and the DTSC and RWQCB a work plan for the design of such NTCRA ("NTCRA Design Work Plan"). The NTCRA Design Work Plan shall provide for design of the NTCRA set forth in the Action Memorandum, and for the achievement of the Performance Standards and other requirements set forth in such Action Memorandum, this AOC, and the SOW. Upon approval by EPA, after consultation with DTSC and RWQCB, the NTCRA Design Work Plan shall be incorporated into and shall be a requirement of this AOC.

Unless EPA determines otherwise, the NTCRA Design Work Plan shall include plans and schedules for implementation of all NTCRA design and pre-design tasks identified in this SOW, including but not limited to plans and schedules for the completion of (A) a design sampling and analysis plan (including but not limited to a NTCRA Design QAPP) in accordance with Section VII (Quality Assurance, Sampling and Data Analysis)); (B) a Health and Safety Plan for field design activities; and (C) a Construction Quality Assurance Plan. The NTCRA Design Work Plan may also include (D) a treatability study; (E) a Pre-design Work Plan; (F) a preliminary design submittal; (G) an intermediate design submittal; and (H) a pre-final/final design submittal. Respondent(s) shall submit to EPA and the DTSC and RWQCB all schedules, plans, submittals and other deliverables required under the approved NTCRA Design Work Plan in accordance with the approved schedule for review and approval pursuant to Section XIV of the Order (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA, Respondent(s) shall not commence further NTCRA Design activities at the area subject to the NTCRA prior to approval of the NTCRA Design Work Plan. If approved by EPA, after consultation with DTSC and RWQCB, Respondent(s) may prepare a Removal Action Work Plan in lieu of the components of the NTCRA Design and NTCRA Design Work Plan. In such cases, the Removal Action Work Plan must meet the substantive requirements of the NTCRA Design Work Plan and the NTCRA Design.

Within thirty (30) days after EPA's approval of Respondent's NTCRA Design, Respondent(s) shall submit to EPA and the DTSC a NTCRA Workplan. The NTCRA Workplan shall provide for implementation of the NTCRA set forth in the Action Memorandum and the approved NTCRA Design, and for the achievement of the Performance Standards and other requirements set forth in such Action Memorandum, approved NTCRA Design Workplan, this AOC, and the SOW.

2.8.4 Non-Time-Critical Removal Actions - Actions

Within sixty (60) days after EPA approval of Respondent's NTCRA Workplan for such area, Respondent(s) shall commence performance of all activities detailed in the NTCRA Workplan.

Respondent(s) shall conduct all activities in accordance with the schedule required by the NTCRA Work Plan and this SOW, including but not limited to (A) construction in accordance with specifications; (B) performance of Operation and Maintenance, if applicable; (C) performance of construction quality assurance project plans; (D) performance of sampling plans directed at measuring progress toward meeting performance standards; and (E) performance of contingency plans.

2.8.5 Progress Reports and Completion Reports for Removal Activities

Pollution Reports (POLREPS): The Respondent(s) shall prepare and submit Pollution Reports on each TCRA and NTCRA. Guidance for the content of POLREPS is available in Directive 9360.3-03, Superfund Removal Procedures, Removal Response Reporting: POLREP and OSC Reports, June 1994.

Removal Action Activity Report: The Report is similar to an On-Scene Coordinator Report and shall include a concise summaries of activities undertaken under CERCLA Response authority (Section 300.165 of the NCP). Within 90 calendar days from completion of any removal action, Respondent(s) shall prepare and submit a final report on each TCRA and NTCRA which summarizes the Removal activities undertaken, effectiveness of the removal activity, problems encountered and lessons learned. Guidance for writing OSC Reports is available in Directive 9360.3-03, Superfund Removal Procedures, Removal Response Reporting: POLREP and OSC Reports, June 1994.

Summary of SOW Activities and Deliverables

Activity	Subtask	Schedule	Deliverable
1. Project Management	**Scoping Meeting**	**Within 30 calendar days of AOC**	**Meeting Minutes**

	Monthly Progress Reports **Maintain Public Repository**	**By 10th of following month**	**Progress Reports**
2. Community Involvement	**Public Meetings** **Fact Sheets**	**Within 30 calendar days of AOC**	**Community Relations Plan**
3. RAWP	**RA Work Plan(s)** **Dust Control Plan and Asbestos Dust Mitigation Plan** **HASP** **QAPP** **CQAP** **SAP** **Site Security Plan** **O&M Plan Update** **LUC RD Update** **SWPPP**	**Within 60 calendar days of AOC**	**Remedial Action Work Plan**
4. Remedy Implementation	**Remedy Construction** **LUC Implemention**	**At time of any transfer**	**Deeds, CRUPs, etc.**
5. Remedial Action Closeout Report	**Pre-Final Construction Inspection** **Final Construction Inspection** **RACR**	**Within 60 calendar days of completion of Remedial Activities**	 **RACR**
6. O&M/Performance Monitoring			**O&M Data** **Annual Progress Reports**
7. 5-Year Review Report			**Final 5-Year Review Report**
8. Removal Action Work Plan(s) and Implementation	**TCRA**		**TCRA Work Plan** **POLREP(s)** **OSC Report(s)**
	NTCRA		**EE/CA** **NTCRA Design** **NTCRA Work Plan** **POLREP(s)** **OSC Report(s)**

Acronyms Used in this SOW

AOC **Administrative Order on Consent**
ARAR **Applicable or Relevant and Appropriate Requirement**

CERCLA	**Comprehensive Environmental Response, Compensation, and Liability Act**
CIP	**Community Involvement Plan**
CSM	**Conceptual Site Model**
CQAP	**Construction Quality Assurance Plan**
DTSC	**Department of Toxics Substances Control**
DQO	**Data Quality Objective**
EE	**Engineering Evaluation**
EPA	**United States Environmental Protection Agency**
ETCA	**Early Transfer Cooperative Agreement**
FFA	**Federal Facilities Agreement**
FSP	**Field Sampling Plan**
HSP	**Health and Safety Plan**
IC	**Institutional Control**
NCP	**National Contingency Plan or National Oil and Hazardous Substances Pollution Contingency Plan**
NTCRA	**Non-Time-Critical Removal Action**
O&M	**Operations and Maintenance**
OSC	**On-Scene Coordinator**
PCBs	**Polychlorinated biphenyls**
POLREP	**Pollution Report**
PP	**Proposed Plan**
PSVP	**Performance System Verification Plan**
QA	**Quality Assurance**
QAPP	**Quality and Assurance Project Plan**
QC	**Quality Control**
RA	**Remedial Action**
RACR	**Remedial Action Completion Report**
RAO	**Remedial Action Objective**
RAWP	**Remedial Action Work Plan**
RD	**Remedial Design**
ROD	**Record of Decision**
RI	**Remedial Investigation**
RWQCB	**Regional Water Quality Control Board**
SAP	**Sampling and Analysis Plan**
SOW	**Statement of Work**
SWPPP	**Storm Water Pollution Prevention Plan**
TCRA	**Time-Critical Removal Action**

TABLE 1
REMEDIAL ACTIVITIES REQUIRED BY THE CERCLA RODS

Parcel		Remedial Action	Description
B		Soil Vapor Extraction	Operate SVE system at Building 123

B		Groundwater Treatment	Inject polylactate at IR Site 10 VOC plume
B and G		Covers	Install covers over all areas; various cover types (soil, asphalt, buildings, etc)
B		Shoreline Revetment	Construct revetment
B and G		Control of Soil Gas	Install and maintain vapor mitigation systems
B and G		Long-Term Obligations	Monitor groundwater in accordance with the RAMPs
			Conduct O&M activities in accordance with the O&M plans
			Implement and enforce ICs in accordance with the LUC RDs
			Prepare and submit 5-year review reports

Refer to the "Final Remedial Design Package Parcel B, Excluding IR Sites 7 and 18" (ChaduxTt, date TBD), and "Final Remedial Design Package Parcel G" (ChaduxTt, date TBD) for the specific locations of these areas and for the RAMPs, LUC RDs, and O&M plans.